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Office of Environmental Management – Grand Junction

UMTRA Project

December 2007 Validation Data Package for the Performance Assessment of the Monthly Sampling for the Ground Water Interim Action

Moab UMTRA Project

September 2008

U.S. Department of Energy

Office of Environmental Management

Work Performed Under DOE Contract No. DE-AC30-07CC60012
for the U.S. Department of Energy Office of Environmental Management,
Grand Junction, Colorado.

Moab UMTRA Project

December 2007 Water Sampling

Validation Data Package for Performance Assessment of the Monthly Sampling for the Ground Water Interim Action Moab, Utah

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1.0 Sampling Event Summary

This section contains the Summary Criteria with a sample location map (Section 1.1), an Executive Summary (Section 1.2), and the Sampling and Analyses (Section 1.3) for the December 2007 Monthly Sampling event.

1.1 Summary Criteria

Site: Moab, Utah

Sampling Period: December 3 - 5, 2007

The purpose of this sampling was to collect data that can be used to evaluate the performance of all configurations of the ground water Interim Action well field. All sampling locations are shown on Figure 1.

1. **As a result of this sampling event, is there any indication of anomalous data that may be related to well field pump rate changes, river flow, or other known causes?**

   No.

2. **Were all Interim Action well-field pumps operating within the planned parameters?**

   Yes. As scheduled, only Configuration 1 was actively extracting ground water during the time this sampling event was completed.

3. **Was the evaporation pond functioning properly?**

   Yes. The pond level was between 3.6 and 3.8 feet (ft) during this sampling event, and in the process of slowly filling up over the winter as Configuration 1 continued pumping over the winter.

4. **Were all proposed well (ground water) and surface-water locations sampled during this event?**

   No. The dedicated submersible pumps in extraction well 0478 was not working during the sampling event, so this location was not sampled.

5. **Were there any site activities that have impacted or may impact the Interim Action system?**

   No.

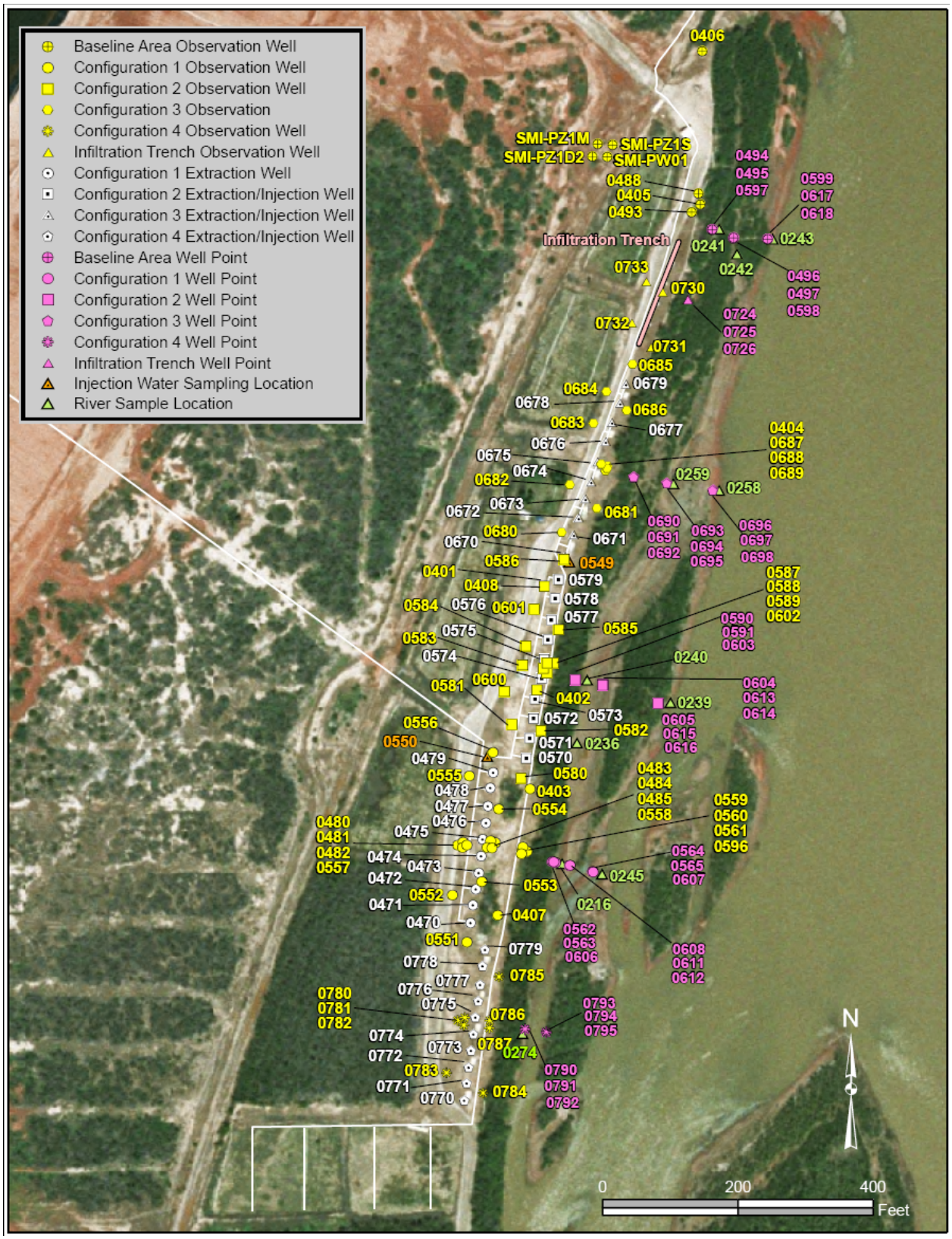


Figure 1. Sample Locations at the Interim Action Well Field and Baseline Area (may include locations not sampled)

1.2 Executive Summary

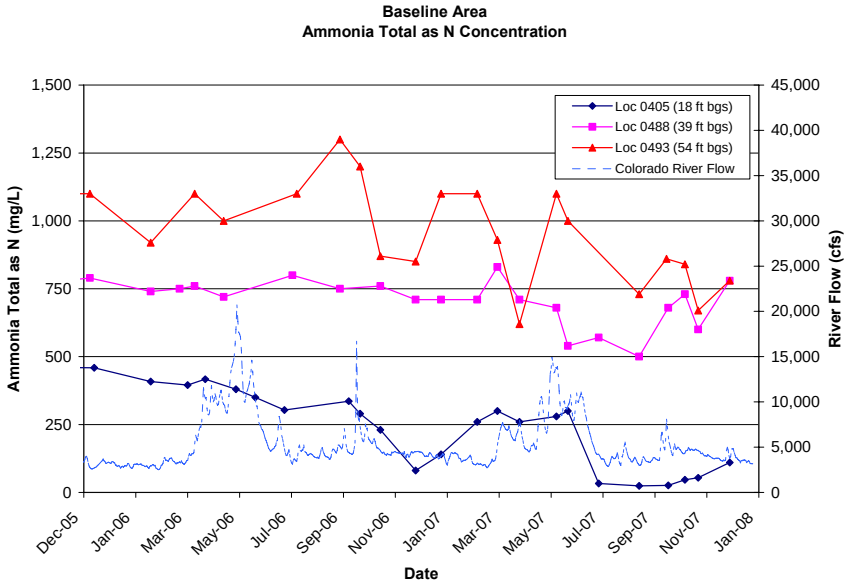
This validation data package (VDP) presents the validated data associated with the ground water samples collected during the December 2007 monthly sampling event at the former uranium tailings processing site in Moab, Utah. This VDP includes a discussion of the data validation process in Section 2.0 with a description of how these data are qualified based on field and laboratory verification assessments (Sections 2.1 and 2.2). Attachment 1 contains the Trip Report detailing the field events associated with this sampling event.

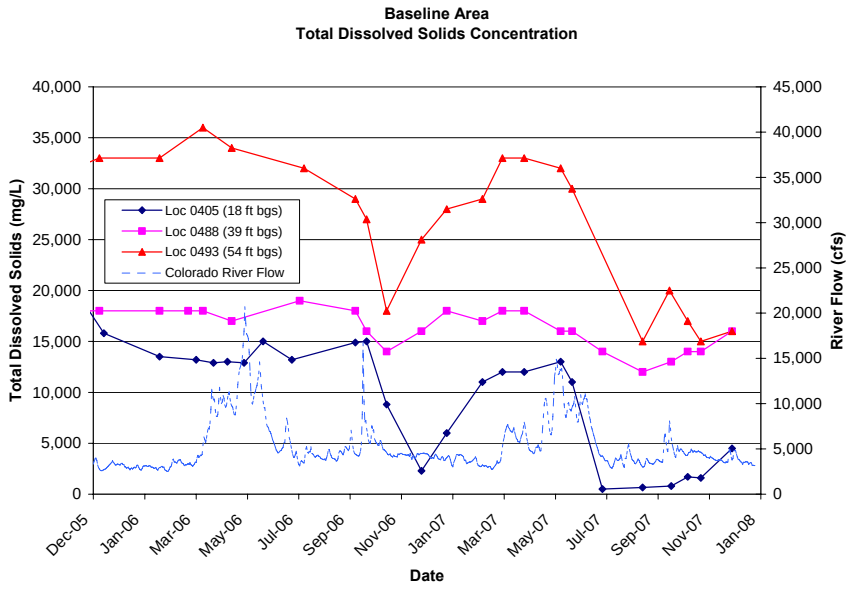
A list of flagged data is presented in Table 2 in Section 2.2. No data were rejected (flagged as "R") as a result of this validation process. A Minimums and Maximums Report (presented in Section 3.1) was generated to determine if the data are within a normal statistical range. Any anomalous data, based on the results of the Minimums and Maximums Report, are presented in Section 3.2.

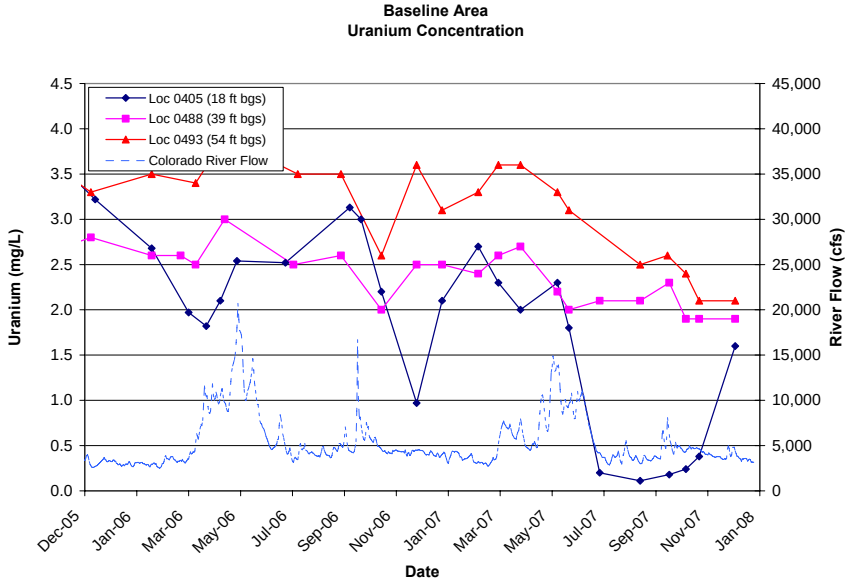
While independent of the data validation process, a brief summary of the most recent concentration trends based on the December 2007 data is provided for the Baseline Area and Configurations 3, 2, 1, and 4 (listed from north to south) within the well field. Time versus concentration (ammonia, total dissolved solids [TDS], and uranium) plots for selected performance-indicator monitoring wells located upgradient or downgradient within the Interim Action well field are presented to display historical trends exhibited by the data over the past two years. Colorado River flows over the same time frame are also plotted to determine whether the magnitude of river flows influences analyte concentrations.

Baseline Area

The sampling from well 0405 suggests the analyte concentrations are beginning to rebound after the suspension of fresh water injection in early October 2007 into the adjacent infiltration trench. Uranium concentrations apparently have rebounded at a faster rate compared to the ammonia and TDS concentrations during this time.

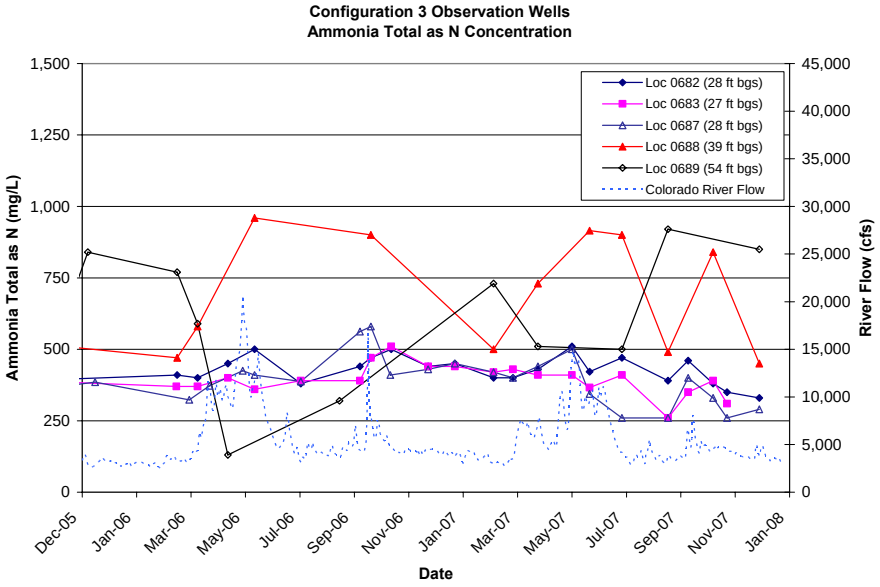






Configuration 3

A review of the time verses concentration plots for Configuration 3 suggests analyte concentrations for samples collected from wells screened less than 30 ft below ground surface (bgs) have not fluctuated significantly; this trend is more pronounced for TDS and ammonia. Samples collected from Configuration 3 observation wells indicate that uranium concentrations were not dependent upon the depth during this time. All concentrations are similar (between 2.0 and 2.6 milligrams per liter [mg/L]) despite the depth from which the samples were collected.


Configuration 3 Observation Wells
Ammonia Total as N Concentration
Ammonia Total as N (mg/L)
River Flow (cfs)
Date
Loc 0682 (28 ft bgs)
Loc 0683 (27 ft bgs)
Loc 0687 (28 ft bgs)
Loc 0688 (39 ft bgs)
Loc 0689 (54 ft bgs)
Colorado River Flow
1,500
1,250
1,000
750
500
250
0
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Dec-05
Jan-06
Mar-06
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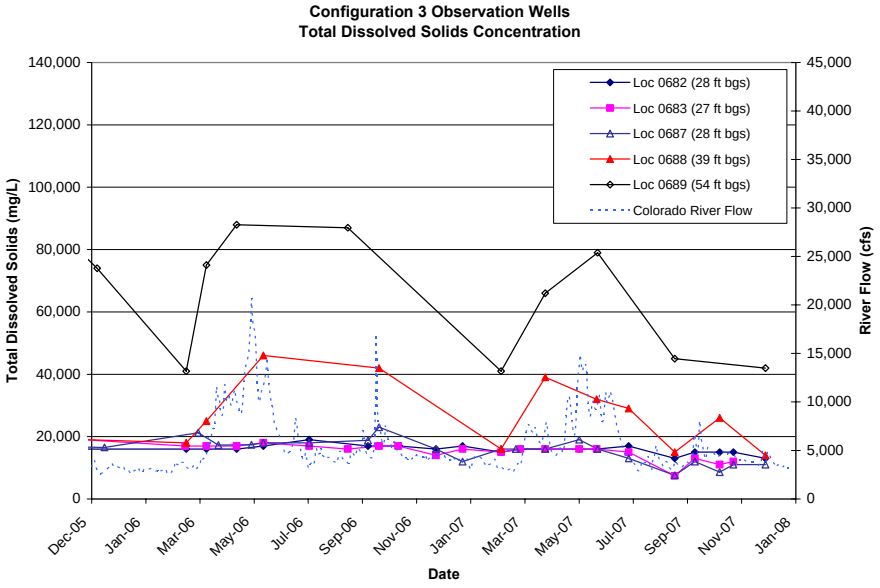
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08


Configuration 3 Observation Wells
Total Dissolved Solids Concentration
Total Dissolved Solids (mg/L)
River Flow (cfs)
Date
Loc 0682 (28 ft bgs)
Loc 0683 (27 ft bgs)
Loc 0687 (28 ft bgs)
Loc 0688 (39 ft bgs)
Loc 0689 (54 ft bgs)
Colorado River Flow
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Dec-05
Jan-06
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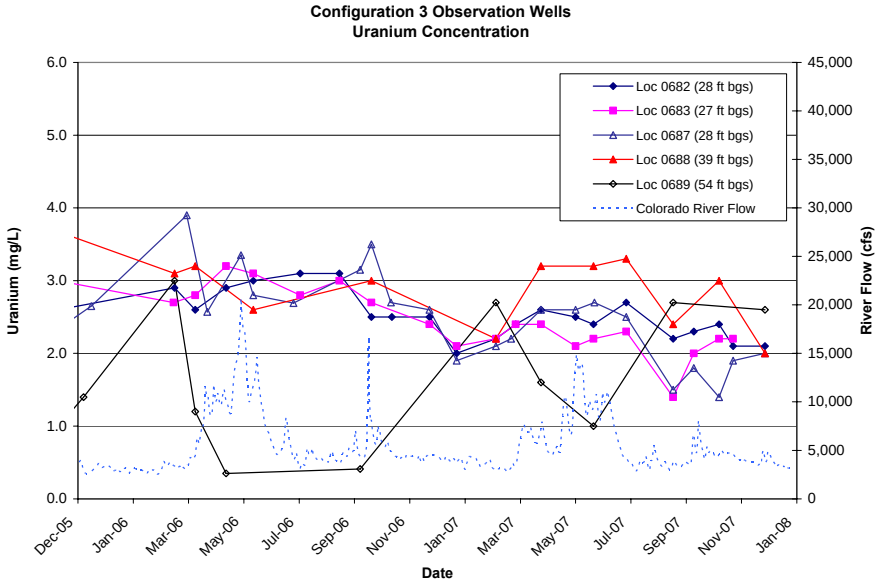
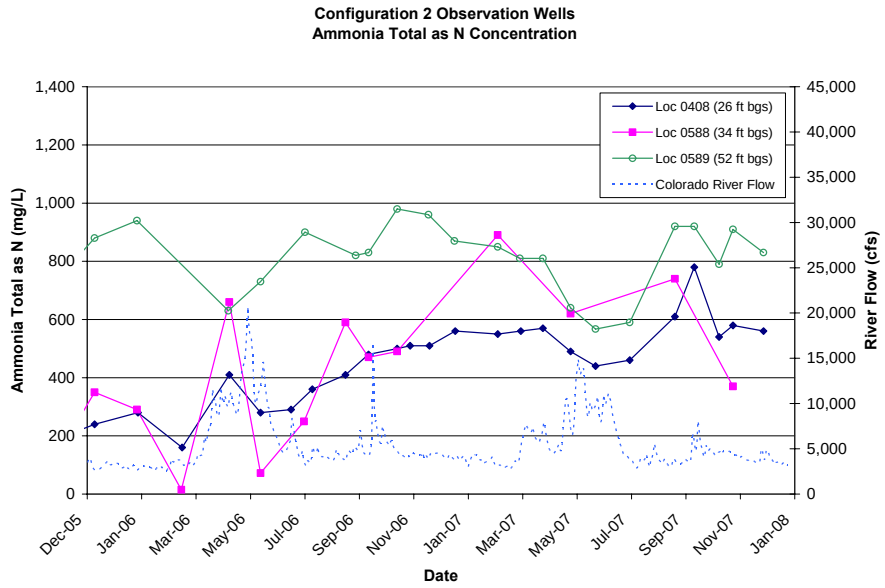
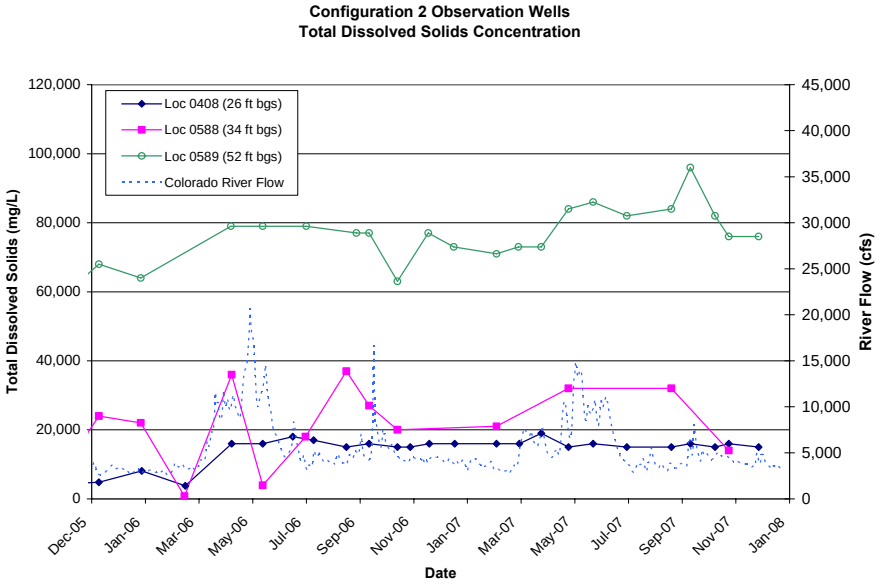
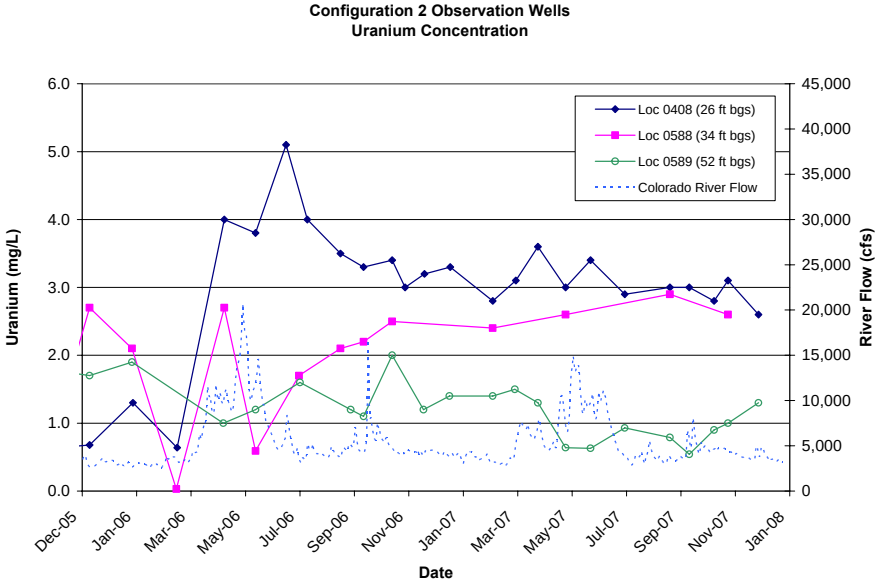


Configuration 2

The Configuration 2 time verses concentration graphs indicate that analyte concentrations were consistent with past sampling events and have not significantly changed over the past month.



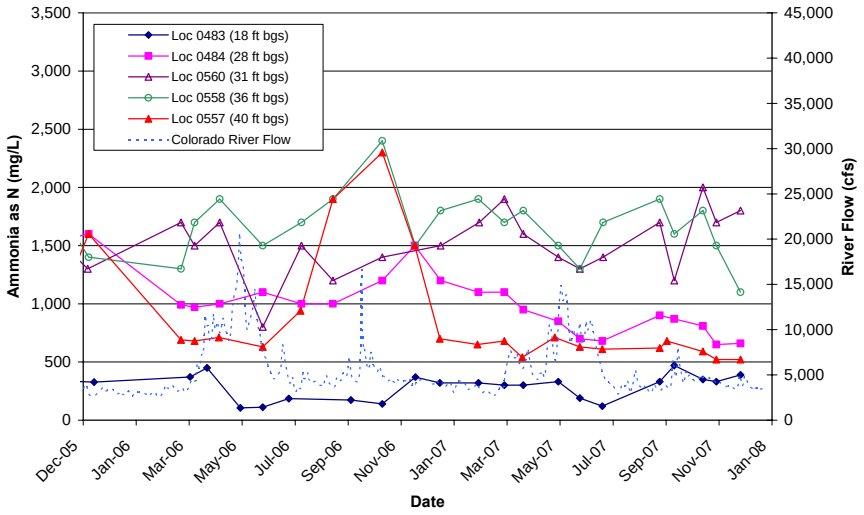




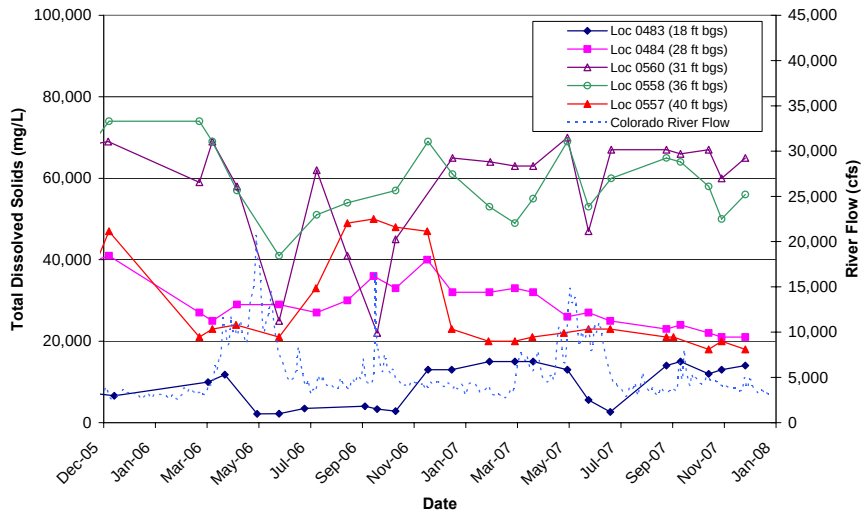
Configuration 1

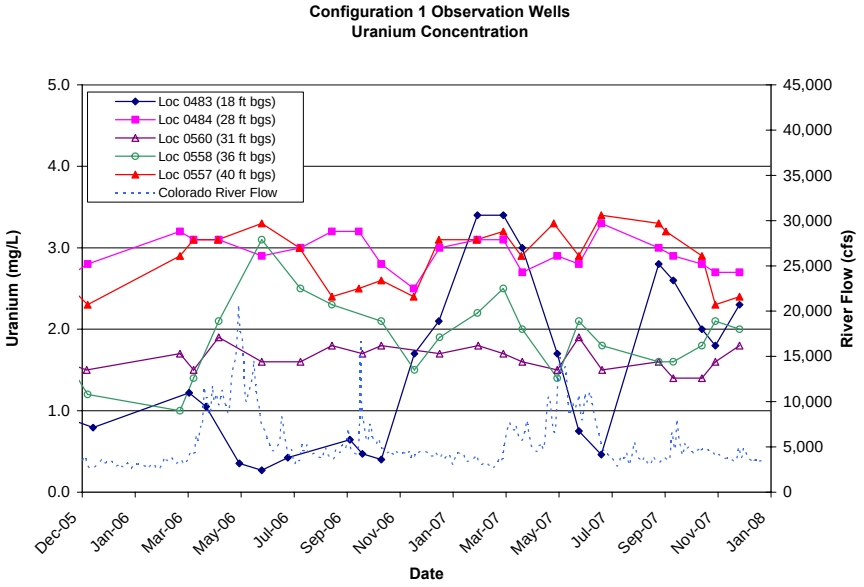
Similar analyte concentration trends to previous events were observed, as indicated by the December 2007 sampling. In general, there have been insignificant changes observed at these sampling locations over the past three months.

Configuration 1 Observation Wells
Ammonia Total as N Concentration



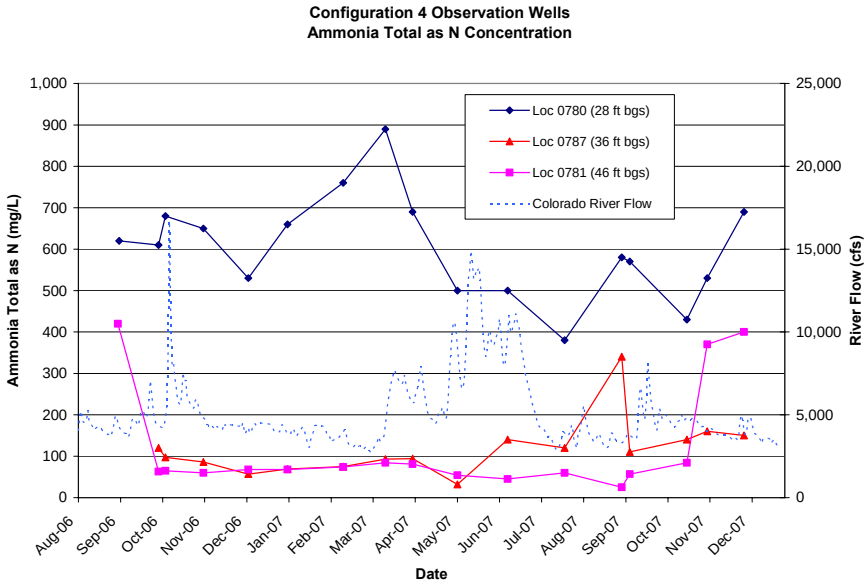
Configuration 1 Observation Wells
Total Dissolved Solids Concentration

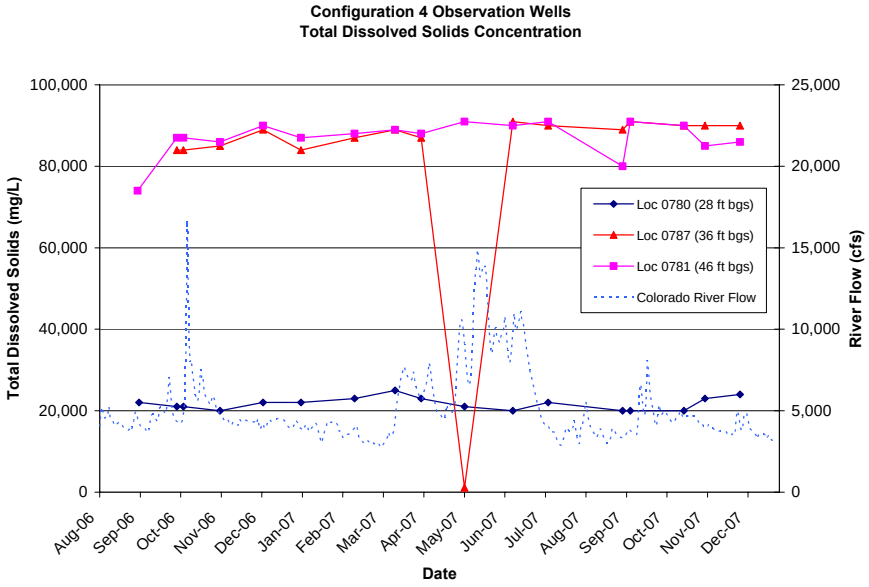


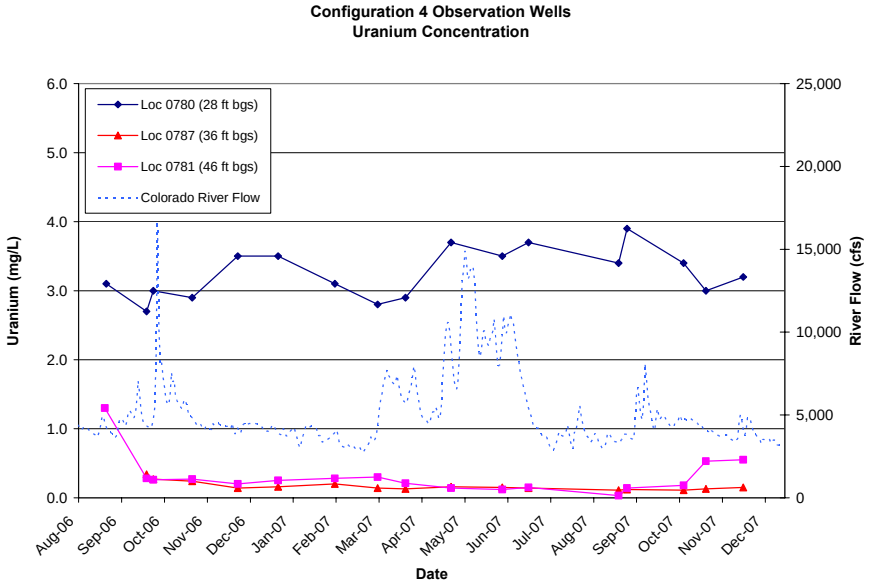


Configuration 4

The samples collected indicate the ammonia concentrations fluctuated in December 2007, while the TDS and uranium concentrations remained consistent. The results confirm the difference between the water chemistry encountered in the shallow zone compared to the deeper zone.







Surface Water Sampling Results

Surface water locations were not sampled as part of this sampling event.

1.3 Sampling and Analyses

Sampling and analyses were conducted in accordance with the *Operations, Maintenance, and Performance Monitoring Plan for the Interim Action Ground Water Treatment System, February 2007*. Although not listed here, the normal set of locations were sampled. Please refer to the attached trip report (Attachment 1) for specific sampled locations and an explanation of why some locations were not sampled.

The data validations indicate that the data meet the quality control criteria specified for this project. No significant discrepancies were noted regarding sample shipping and receiving,

preservation times, holding times, instrument calibration, method blanks, or matrix spikes, except as qualified or noted in the Laboratory Performance Assessment (Section 2.2).

There was one location with an anomalous data point; well 0476 (Configuration 1) was high in copper. However, the range of anomalous copper concentrations is still being developed.

According to the U.S. Geological Survey (USGS) Cisco Gaging Station, the mean daily Colorado River flow rates varied between 3,780 and 4,690 cfs during this sampling period.

KWPill 9/22/08

Ken Pill
Ground Water Lead

Date

2.0 Data Assessment Summary

This section contains the Water Sampling Field Activities Verification (Section 2.1), the Laboratory Performance Assessments (Section 2.2), the Field Analyses/Activities (Section 2.3), and Certification (Section 2.4).

2.1 Water Sampling Field Activities Verification

The field activities verification process for this sampling event was documented using the following checklist. As the checklist exhibits, all sampling was conducted following the applicable procedures.

Water Sampling Field Activities Verification Checklist

Sampling Event / RIN	December 2007 Monthly / 0712005	**Date(s) of Water Sampling**	December 3 - 5 2007
Date(s) of Verification	July 1, 2008	**Name of Verifier**	Rachel Cowan

		Response (Yes, No, NA)	Comments
1.	Is the SAP the primary document directing field procedures?	Yes	
	List other documents, standard operating procedures, instructions.	NA	
2.	Were the sampling locations specified in the planning documents sampled?	No	See trip report and Section 1.1 for explanation.
3.	Was a pre-trip calibration conducted as specified in the aforementioned documents?	Yes	
4.	Was an operational check of the field equipment conducted twice daily?	Yes	
	Did the operational checks meet criteria?	Yes	
5.	Were the number and types (alkalinity, temperature, electrical conductivity, pH, turbidity, dissolved oxygen, oxidation reduction potential) of field measurements taken as specified?	Yes	
6.	Was the category of the well documented?	Yes	
7.	Were the following conditions met when purging a Category I well:		
	Was one pump/tubing volume purged prior to sampling?	Yes	
	Did the water level stabilize prior to sampling?	Yes	
	Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	Yes	
	Was the flow rate less than 500 milliliters per minute (mL/min)?	Yes	
	If a portable pump was used, was there a 4-hour delay between pump installation and sampling?	NA	

Water Sampling Field Activities Verification Checklist

8.	Were the following conditions met when purging a Category II well:		
	Was the flow rate less than 500 mL/min?	Yes	
	Was one pump/tubing volume removed prior to sampling?	Yes	
9.	Were duplicates taken at a frequency of one per 20 samples?	Yes	Two duplicates were taken from two different locations. However, they were assigned the same number. The lab assigned one of the duplicates a different number.
10.	Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	No	Ground water samples are collected on dedicated equipment; however, surface water samples are not. There were no surface water samples collected, so equipment blanks were needed.
11.	Were trip blanks prepared and included with each shipment of volatile organic compound samples?	NA	
12.	Were Quality Control samples assigned a fictitious site identification number?	Yes	
	Was the true identity of the samples recorded on the Quality Assurance Sample Log?	Yes	
13.	Were samples collected in the containers specified?	Yes	
14.	Were samples filtered and preserved as specified?	Yes	
15.	Were the number and types of samples collected as specified?	Yes	
16.	Were chain-of-custody (COC) records completed, and was sample custody maintained?	Yes	
17.	Are field data sheets signed and dated by both team members?	Yes	
18.	Was all other pertinent information documented on the field data sheets?	Yes	
19.	Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
20.	Were water levels measured at the locations specified in the planning documents?	Yes	

2.2 Laboratory Performance Assessment

General Information

Requisition No. (RIN):	0712005
Sample Event:	Interim Action Well Field Monthly Sampling, December 2007
Site(s):	Moab, UT
Laboratory:	Paragon Analytics, Fort Collins, CO
Sample Data Group (SDG) No.:	0712040
Analysis:	Metals and Inorganics
Validator:	Rebecca Hollis
Review Date:	4 June 2008

This validation was performed according to the *Environmental Procedures Catalog*, "Standard Practice for Validation of Laboratory Data," GT-9(P) (2006). The procedure was applied at Level 1, Data Deliverables Examination on 100 percent of the samples. See attached Data Validation Worksheets for supporting documentation on the data review and validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 1.

Table 1. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N, NH_3-N	WCH-A-005	MCAWW 350.1	MCAWW 350.1
Bromide	MIS-A-038	SW-846 9056	SW9056
Chloride	MIS-A-039	SW-846 9056	SW9056
Copper	MET-A-022	SW-846 3005A	SW6010
Manganese	GJO-17	SW-846 3005A	SW6010
Selenium	GJO-14	SW-846 3005A	SW6020
Sulfate	MIS-A-044	SW-846 9056	SW9056
Total Dissolved Solids	WIC-A-033	MCAWW 160.1	MCAWW 160.1
Uranium	GJO-01	SW-846 3005A	SW6020

Data Qualifier Summary

Analytical results were qualified as listed in Table 2. Refer to the attached validation worksheets and the sections below for an explanation of the data qualifiers applied. Table 3 provides an explanation of the reason codes listed for the data qualifiers presented in Table 2.

Table 2. Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
All 0712040 samples	All locations sampled during this event	Ammonia as N	J	MS1
All 0712040 samples	All locations sampled during this event	Ammonia as N	J	RS1
All 0712040 samples	All locations sampled during this event	Chloride	J	MS1
All 0712040 samples	All locations sampled during this event	Chloride	J	RS1
All 0712040 samples	All locations sampled during this event	Sulfate	J	MS1
All 0712040 samples	All locations sampled during this event	Sulfate	J	RS1
All 0712040 samples	All locations sampled during this event	Uranium	J	LCS1

Note: J = estimated value; R = Unusable result; U = Analytical Result Below Detection Limit

Table 3. Reason Codes for Data Flags

Reason Code	Explanation
MS1	Matrix spike samples were not analyzed at the proper frequency as stated in the appropriate analytical method
RS1	Replicate samples were not analyzed at the proper frequency as stated in the appropriate analytical method
LCS1	Laboratory control samples were not analyzed at the proper frequency as stated in the appropriate analytical method

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received a total of 31 samples for this report identification number (RIN). The 31 samples arrived on December 6, 2007, (SDG 0712040) under Tracking Numbers 1Z5W1Y510191776285 and 1Z5W1Y510192849874. The sample group was accompanied by Chain of Custody (COC) forms. The COC forms were checked to confirm that all of the samples were listed on each form with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents, including the COC forms and the sample tickets, had no errors or omissions with one exception. The sample ticket for 0712040-14 (field location 0493) was missing preservation information, although the COC form did have the preservation information for the sample.

Preservation and Holding Times

The sample shipments were received intact with the temperatures within the coolers between 3.0 and 3.6 °C, which comply with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses. All samples were analyzed within the applicable holding times.

Case Narratives

The case narratives were reviewed and all results were found to meet the quality control requirements except for the following:

Matrix Spike and Replicate Analysis

Matrix spike (MS) sample analysis is performed as a measure of the ability to recover analytes in a particular matrix. Replicate analysis consists of analysis of a duplicate sample, typically a matrix spike duplicate (MSD), as an indication of laboratory precision for each sample matrix.

Method MCAWW 350.1, Ammonia as N

Ammonia as N MS and MSD analyses for the entire RIN were not made at the required frequency. Method 350.1 requires duplicates to be analyzed for at least 10 percent of the samples. In addition, the ammonia concentrations in the native samples were above the analytical range; therefore, accurate quantitation of MS/MSD recoveries were not possible. All ammonia results in SDG 0712040 were flagged.

Method SW9056, Chloride

Chloride MS and MSD analyses were made at the required frequency for SDG 0712040. Unfortunately, all the MS and MSD analyses had chloride concentrations above the instrument's analytical range, so all chloride results were flagged for these reasons.

Method SW9056, Sulfate

Sulfate MS and MSD analyses were made at the required frequency for SDG 0712040. Unfortunately, all the MS and MSD analyses had sulfate concentrations above the instrument's analytical range, so all sulfate results were flagged for these reasons.

Method SW6020, Uranium

The designated quality control sample was not selected for uranium MS and MSD analysis for SDG 0712040. All associated uranium results were flagged for this SDG.

Laboratory Control Sample

A laboratory control sample (LCS) must be analyzed at the correct frequency (one LCS per 20 samples) to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation. LCSs were prepared and analyzed as appropriate with the following exception.

Method SW6020, Uranium

There were no uranium LCSs, however, Method SW6020 requires LCSs, so all uranium results were flagged for this reason.

Completeness

Results were reported in the correct units for all analytes requested using contract required laboratory qualifiers.

Electronic Data Deliverable File

The Electronic Data Deliverable (EDD) files arrived on December 31, 2007. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package and that all and only the requested data were delivered.

Report Prepared By: RWH, FOR

Rebecca Hollis

2.3 Field Analyses/Activities

The following information summarizes the field analyses and activities for this sampling event period.

Field Activities

All monitor wells were purged and sampled using the low-flow sampling method; this method was not used at extraction wells. One equipment blank was collected for the non-dedicated surface water collection equipment. Two duplicate samples were collected. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, Environmental Protection Agency (EPA) guidance for laboratory duplicates (which is conservative for field duplicates) was used to assess the precision of the field duplicates. All results met the criteria of ±20 relative percent difference (RPD) and are considered acceptable.

2.4 Certification

Results were reported in correct units for all analytes requested. Appropriate contract required laboratory qualifiers and target analyte lists were used. The required detection limits (RDLs) were met when possible, or an explanation of why they were not met was given in the laboratory case narrative. All analytical quality control criteria were met except as qualified on the Ground Water Quality Data by Parameter, Surface Water Quality by Parameter, or equipment/trip blank database printouts. The meaning of data qualifiers is defined on the database printouts or defined in the EPA *Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media Multi-Concentration*, Document Number ILMO2.0, 1991. All data in this package are considered validated and may be treated as final results.

Laboratory Validation Lead: KW Pill FOR — 9/22/03

Rebecca Hollis — Date

Ground Water Lead: KW Pill — 9/22/03

Ken Pill — Date

3.0 Data Presentation

This section contains the Minimums and Maximums Report (Section 3.1), the Anomalous Data Review Check Sheet (Section 3.2), a table containing the Water Quality and Water Level Data (Sections 3.3 and 3.4, respectively), and the Blanks Report (Section 3.5).

3.1 Minimums and Maximums Report

The Minimums and Maximums Report is generated by the Sample Management System used to query the SEEPro database. The DataVal program compares the new data set with historical data and lists all new data that fall outside the historical data range. Values listed in the report are further screened, and the results are not considered anomalous if: (1) identified low concentrations are the result of low detection limits; (2) the concentration detected is within 50 percent of historical minimum or maximum values; or (3) there were fewer than five historical samples for comparison.

Data Validation Minimums and Maximums Report - No Field Parameters
Laboratory: PARAGON (Fort Collins, CO)
RIN: 0712005
Comparison: All Historical Data
Report Date: 7/2/2008

				Current			Historical Maximum			Historical Minimum			Count	
					Qualifiers			Qualifiers			Qualifiers			
Site Code	Location Code	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect
MOA01	0403	12/04/2007	Copper	0.014	B		0.0098	B	J	0.0007	U		8	6
MOA01	0408	12/04/2007	Selenium	0.005			0.009		F	0.0051			11	0
MOA01	0476	12/03/2007	Copper	0.15			0.024	B	J	0.0017	U	J	7	6
MOA01	0480	12/03/2007	Manganese	4.6			5.6		F	4.7		F	11	0
MOA01	0481	12/03/2007	Total Dissolved Solids	17000			40000		F	19000		F	31	0
MOA01	0587	12/04/2007	Manganese	4.4			4		F	1.7		J	10	0
MOA01	0587	12/04/2007	Selenium	0.0053			0.012			0.0069			10	0
MOA01	0682	12/04/2007	Ammonia Total as N	330		J	510		F	350		J	25	0
MOA01	0688	12/05/2007	Manganese	3.7			6.1		F	4			10	0

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q	Qualitative result due to sampling technique.	R	Unusable result.
U	Parameter analyzed for but was not detected.	X	Location is undefined.		

3.2 Anomalous Data Review Checksheet

Any results that are considered anomalous based on the Minimums and Maximums Report are listed below.

Site: **Moab Processing Site** **Sampling Date:** **December 3-5, 2007**

Reviewer:	Rachel Cowan	RC Rich FOR	9/22/03
	Name	Signature	Date
Site Lead:	Joe Ritchey	Joe Ritchey	10/1/08
	Name	Signature	Date

Loc. No.	Analyte	Type of Anomaly	Disposition
0476	Copper	High	Still establishing range. Sample analyzed for analyte fewer than 10 times.

3.3 Water Quality Data

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Alkalinity, Total (As CaCO3)	mg/L	0403	WL	12/04/2007	0001	17	-	17	800			#		
Alkalinity, Total (As CaCO3)	mg/L	0405	WL	12/05/2007	0001	18	-	18	600			#		
Alkalinity, Total (As CaCO3)	mg/L	0407	WL	12/04/2007	0001	17	-	17	184			#		
Alkalinity, Total (As CaCO3)	mg/L	0408	WL	12/04/2007	0001	26	-	26	830			#		
Alkalinity, Total (As CaCO3)	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	750			#		
Alkalinity, Total (As CaCO3)	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	640			#		
Alkalinity, Total (As CaCO3)	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	700			#		
Alkalinity, Total (As CaCO3)	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	848			#		
Alkalinity, Total (As CaCO3)	mg/L	0480	WL	12/03/2007	0001	18	-	18	876			#		
Alkalinity, Total (As CaCO3)	mg/L	0481	WL	12/03/2007	0001	28	-	28	834			#		
Alkalinity, Total (As CaCO3)	mg/L	0483	WL	12/03/2007	0001	18	-	18	612			#		
Alkalinity, Total (As CaCO3)	mg/L	0484	WL	12/03/2007	0001	28	-	28	868			#		
Alkalinity, Total (As CaCO3)	mg/L	0488	WL	12/05/2007	0001	39	-	39	810			#		
Alkalinity, Total (As CaCO3)	mg/L	0493	WL	12/05/2007	0001	46	-	46	840			#		
Alkalinity, Total (As CaCO3)	mg/L	0547	TS	12/05/2007	0001	0	-	0	740			#		
Alkalinity, Total (As CaCO3)	mg/L	0557	WL	12/03/2007	0001	40	-	40	828			#		
Alkalinity, Total (As CaCO3)	mg/L	0558	WL	12/03/2007	0001	36	-	36	542			#		
Alkalinity, Total (As CaCO3)	mg/L	0559	WL	12/03/2007	0001	19	-	19	676			#		
Alkalinity, Total (As CaCO3)	mg/L	0560	WL	12/03/2007	0001	31	-	31	504			#		
Alkalinity, Total (As CaCO3)	mg/L	0583	WL	12/04/2007	0001	18	-	18	848			#		
Alkalinity, Total (As CaCO3)	mg/L	0587	WL	12/04/2007	0001	18	-	18	860			#		
Alkalinity, Total (As CaCO3)	mg/L	0589	WL	12/04/2007	0001	52	-	52	418			#		
Alkalinity, Total (As CaCO3)	mg/L	0682	WL	12/04/2007	0001	28	-	28	728			#		
Alkalinity, Total (As CaCO3)	mg/L	0687	WL	12/04/2007	0001	18	-	18	660			#		
Alkalinity, Total (As CaCO3)	mg/L	0688	WL	12/05/2007	0001	39	-	39	714			#		
Alkalinity, Total (As CaCO3)	mg/L	0689	WL	12/05/2007	0001	54	-	54	748			#		

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Alkalinity, Total (As CaCO3)	mg/L	0780	WL	12/04/2007	0001	28	-	28	926			#		
Alkalinity, Total (As CaCO3)	mg/L	0781	WL	12/04/2007	0001	46	-	46	330			#		
Alkalinity, Total (As CaCO3)	mg/L	0787	WL	12/04/2007	0001	36	-	36	230			#		
Ammonia Total as N	mg/L	0403	WL	12/04/2007	0001	17	-	17	260		J	#	20	
Ammonia Total as N	mg/L	0405	WL	12/05/2007	0001	18	-	18	110		J	#	20	
Ammonia Total as N	mg/L	0407	WL	12/04/2007	0001	17	-	17	14		J	#	1	
Ammonia Total as N	mg/L	0407	WL	12/04/2007	0002	17	-	17	15		J	#	1	
Ammonia Total as N	mg/L	0408	WL	12/04/2007	0001	26	-	26	560		J	#	20	
Ammonia Total as N	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	420		J	#	20	
Ammonia Total as N	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	450		J	#	20	
Ammonia Total as N	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	350		J	#	20	
Ammonia Total as N	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	270		J	#	20	
Ammonia Total as N	mg/L	0480	WL	12/03/2007	0001	18	-	18	620		J	#	20	
Ammonia Total as N	mg/L	0481	WL	12/03/2007	0001	28	-	28	490		J	#	20	
Ammonia Total as N	mg/L	0483	WL	12/03/2007	0001	18	-	18	390		J	#	20	
Ammonia Total as N	mg/L	0484	WL	12/03/2007	0001	28	-	28	660		J	#	20	
Ammonia Total as N	mg/L	0488	WL	12/05/2007	0001	39	-	39	780		J	#	20	
Ammonia Total as N	mg/L	0488	WL	12/05/2007	0002	39	-	39	680		J	#	20	
Ammonia Total as N	mg/L	0493	WL	12/05/2007	0001	46	-	46	780		J	#	20	
Ammonia Total as N	mg/L	0547	TS	12/05/2007	0001	0	-	0	360		J	#	20	
Ammonia Total as N	mg/L	0557	WL	12/03/2007	0001	40	-	40	520		J	#	20	
Ammonia Total as N	mg/L	0558	WL	12/03/2007	0001	36	-	36	1100		J	#	100	
Ammonia Total as N	mg/L	0559	WL	12/03/2007	0001	19	-	19	240		J	#	20	
Ammonia Total as N	mg/L	0560	WL	12/03/2007	0001	31	-	31	1800		J	#	100	
Ammonia Total as N	mg/L	0583	WL	12/04/2007	0001	18	-	18	510		J	#	20	
Ammonia Total as N	mg/L	0587	WL	12/04/2007	0001	18	-	18	300		J	#	20	

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Ammonia Total as N	mg/L	0589	WL	12/04/2007	0001	52	-	52	830		J	#	20	
Ammonia Total as N	mg/L	0682	WL	12/04/2007	0001	28	-	28	330		J	#	20	
Ammonia Total as N	mg/L	0687	WL	12/04/2007	0001	18	-	18	290		J	#	20	
Ammonia Total as N	mg/L	0688	WL	12/05/2007	0001	39	-	39	450		J	#	20	
Ammonia Total as N	mg/L	0689	WL	12/05/2007	0001	54	-	54	850		J	#	50	
Ammonia Total as N	mg/L	0780	WL	12/04/2007	0001	28	-	28	690		J	#	20	
Ammonia Total as N	mg/L	0781	WL	12/04/2007	0001	46	-	46	400		J	#	20	
Ammonia Total as N	mg/L	0787	WL	12/04/2007	0001	36	-	36	150		J	#	20	
Bromide	mg/L	0403	WL	12/04/2007	0001	17	-	17	4	U		#	4	
Bromide	mg/L	0405	WL	12/05/2007	0001	18	-	18	1	U		#	1	
Bromide	mg/L	0407	WL	12/04/2007	0001	17	-	17	0.4	U		#	0.4	
Bromide	mg/L	0407	WL	12/04/2007	0002	17	-	17	0.4	U		#	0.4	
Bromide	mg/L	0408	WL	12/04/2007	0001	26	-	26	4	U		#	4	
Bromide	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	4	U		#	4	
Bromide	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	4	U		#	4	
Bromide	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	4	U		#	4	
Bromide	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	2	U		#	2	
Bromide	mg/L	0480	WL	12/03/2007	0001	18	-	18	4	U		#	4	
Bromide	mg/L	0481	WL	12/03/2007	0001	28	-	28	4	U		#	4	
Bromide	mg/L	0483	WL	12/03/2007	0001	18	-	18	4	U		#	4	
Bromide	mg/L	0484	WL	12/03/2007	0001	28	-	28	4	U		#	4	
Bromide	mg/L	0488	WL	12/05/2007	0001	39	-	39	4	U		#	4	
Bromide	mg/L	0488	WL	12/05/2007	0002	39	-	39	4	U		#	4	
Bromide	mg/L	0493	WL	12/05/2007	0001	46	-	46	4	U		#	4	
Bromide	mg/L	0547	TS	12/05/2007	0001	0	-	0	2	U		#	2	
Bromide	mg/L	0557	WL	12/03/2007	0001	40	-	40	4	U		#	4	

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Bromide	mg/L	0558	WL	12/03/2007	0001	36	-	36	20	U		#	20	
Bromide	mg/L	0559	WL	12/03/2007	0001	19	-	19	2	U		#	2	
Bromide	mg/L	0560	WL	12/03/2007	0001	31	-	31	20	U		#	20	
Bromide	mg/L	0583	WL	12/04/2007	0001	18	-	18	2	U		#	2	
Bromide	mg/L	0587	WL	12/04/2007	0001	18	-	18	2	U		#	2	
Bromide	mg/L	0589	WL	12/04/2007	0001	52	-	52	20	U		#	20	
Bromide	mg/L	0682	WL	12/04/2007	0001	28	-	28	4	U		#	4	
Bromide	mg/L	0687	WL	12/04/2007	0001	18	-	18	2	U		#	2	
Bromide	mg/L	0688	WL	12/05/2007	0001	39	-	39	4	U		#	4	
Bromide	mg/L	0689	WL	12/05/2007	0001	54	-	54	10	U		#	10	
Bromide	mg/L	0780	WL	12/04/2007	0001	28	-	28	4	U		#	4	
Bromide	mg/L	0781	WL	12/04/2007	0001	46	-	46	20	U		#	20	
Bromide	mg/L	0787	WL	12/04/2007	0001	36	-	36	20	U		#	20	
Chloride	mg/L	0403	WL	12/04/2007	0001	17	-	17	1500		J	#	40	
Chloride	mg/L	0405	WL	12/05/2007	0001	18	-	18	360		J	#	20	
Chloride	mg/L	0407	WL	12/04/2007	0001	17	-	17	120		J	#	4	
Chloride	mg/L	0407	WL	12/04/2007	0002	17	-	17	110		J	#	4	
Chloride	mg/L	0408	WL	12/04/2007	0001	26	-	26	1900		J	#	40	
Chloride	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	2300		J	#	40	
Chloride	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	2600		J	#	40	
Chloride	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	2200		J	#	40	
Chloride	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	1700		J	#	40	
Chloride	mg/L	0480	WL	12/03/2007	0001	18	-	18	3900		J	#	40	
Chloride	mg/L	0481	WL	12/03/2007	0001	28	-	28	3900		J	#	40	
Chloride	mg/L	0483	WL	12/03/2007	0001	18	-	18	3000		J	#	40	
Chloride	mg/L	0484	WL	12/03/2007	0001	28	-	28	5700		J	#	100	

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Chloride	mg/L	0488	WL	12/05/2007	0001	39	-	39	1600		J	#	40	
Chloride	mg/L	0488	WL	12/05/2007	0002	39	-	39	1600		J	#	40	
Chloride	mg/L	0493	WL	12/05/2007	0001	46	-	46	1600		J	#	40	
Chloride	mg/L	0547	TS	12/05/2007	0001	0	-	0	2000		J	#	40	
Chloride	mg/L	0557	WL	12/03/2007	0001	40	-	40	4900		J	#	100	
Chloride	mg/L	0558	WL	12/03/2007	0001	36	-	36	27000		J	#	1000	
Chloride	mg/L	0559	WL	12/03/2007	0001	19	-	19	1300		J	#	40	
Chloride	mg/L	0560	WL	12/03/2007	0001	31	-	31	34000		J	#	1000	
Chloride	mg/L	0583	WL	12/04/2007	0001	18	-	18	1400		J	#	40	
Chloride	mg/L	0587	WL	12/04/2007	0001	18	-	18	1200		J	#	40	
Chloride	mg/L	0589	WL	12/04/2007	0001	52	-	52	39000		J	#	1000	
Chloride	mg/L	0682	WL	12/04/2007	0001	28	-	28	1600		J	#	40	
Chloride	mg/L	0687	WL	12/04/2007	0001	18	-	18	1400		J	#	40	
Chloride	mg/L	0688	WL	12/05/2007	0001	39	-	39	1700		J	#	40	
Chloride	mg/L	0689	WL	12/05/2007	0001	54	-	54	16000		J	#	200	
Chloride	mg/L	0780	WL	12/04/2007	0001	28	-	28	5100		J	#	100	
Chloride	mg/L	0781	WL	12/04/2007	0001	46	-	46	46000		J	#	1000	
Chloride	mg/L	0787	WL	12/04/2007	0001	36	-	36	50000		J	#	1000	
Copper	mg/L	0403	WL	12/04/2007	0001	17	-	17	0.014	B		#	0.007	
Copper	mg/L	0405	WL	12/05/2007	0001	18	-	18	0.0094	B		#	0.0035	
Copper	mg/L	0407	WL	12/04/2007	0001	17	-	17	0.001	B		#	0.0007	
Copper	mg/L	0407	WL	12/04/2007	0002	17	-	17	0.0007	U		#	0.0007	
Copper	mg/L	0408	WL	12/04/2007	0001	26	-	26	0.01	B		#	0.007	
Copper	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	0.007	U		#	0.007	
Copper	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	0.007	B		#	0.007	
Copper	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	0.007	U		#	0.007	

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Copper	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	0.15			#	0.007	
Copper	mg/L	0480	WL	12/03/2007	0001	18	-	18	0.007	U		#	0.007	
Copper	mg/L	0481	WL	12/03/2007	0001	28	-	28	0.007	U		#	0.007	
Copper	mg/L	0483	WL	12/03/2007	0001	18	-	18	0.011	B		#	0.007	
Copper	mg/L	0484	WL	12/03/2007	0001	28	-	28	0.007	U		#	0.007	
Copper	mg/L	0488	WL	12/05/2007	0001	39	-	39	0.007	U		#	0.007	
Copper	mg/L	0488	WL	12/05/2007	0002	39	-	39	0.007	U		#	0.007	
Copper	mg/L	0493	WL	12/05/2007	0001	46	-	46	0.007	U		#	0.007	
Copper	mg/L	0547	TS	12/05/2007	0001	0	-	0	0.007	U		#	0.007	
Copper	mg/L	0557	WL	12/03/2007	0001	40	-	40	0.007	U		#	0.007	
Copper	mg/L	0558	WL	12/03/2007	0001	36	-	36	0.035	U		#	0.035	
Copper	mg/L	0559	WL	12/03/2007	0001	19	-	19	0.007	U		#	0.007	
Copper	mg/L	0560	WL	12/03/2007	0001	31	-	31	0.035	U		#	0.035	
Copper	mg/L	0583	WL	12/04/2007	0001	18	-	18	0.007	U		#	0.007	
Copper	mg/L	0587	WL	12/04/2007	0001	18	-	18	0.0095	B		#	0.007	
Copper	mg/L	0589	WL	12/04/2007	0001	52	-	52	0.035	U		#	0.035	
Copper	mg/L	0682	WL	12/04/2007	0001	28	-	28	0.007	U		#	0.007	
Copper	mg/L	0687	WL	12/04/2007	0001	18	-	18	0.0076	B		#	0.007	
Copper	mg/L	0688	WL	12/05/2007	0001	39	-	39	0.007	U		#	0.007	
Copper	mg/L	0689	WL	12/05/2007	0001	54	-	54	0.017	U		#	0.017	
Copper	mg/L	0780	WL	12/04/2007	0001	28	-	28	0.017	U		#	0.017	
Copper	mg/L	0781	WL	12/04/2007	0001	46	-	46	0.048	B		#	0.035	
Copper	mg/L	0787	WL	12/04/2007	0001	36	-	36	0.2	B		#	0.035	

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Dissolved Oxygen	mg/L	0403	WL	12/04/2007	0001	17	-	17	3.88			#		
Dissolved Oxygen	mg/L	0405	WL	12/05/2007	0001	18	-	18	1.22			#		
Dissolved Oxygen	mg/L	0407	WL	12/04/2007	0001	17	-	17	2.78			#		
Dissolved Oxygen	mg/L	0408	WL	12/04/2007	0001	26	-	26	2.05			#		
Dissolved Oxygen	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	7.88			#		
Dissolved Oxygen	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	4.62			#		
Dissolved Oxygen	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	5.85			#		
Dissolved Oxygen	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	3.92			#		
Dissolved Oxygen	mg/L	0480	WL	12/03/2007	0001	18	-	18	2.34			#		
Dissolved Oxygen	mg/L	0481	WL	12/03/2007	0001	28	-	28	3.84			#		
Dissolved Oxygen	mg/L	0483	WL	12/03/2007	0001	18	-	18	3.09			#		
Dissolved Oxygen	mg/L	0484	WL	12/03/2007	0001	28	-	28	2.66			#		
Dissolved Oxygen	mg/L	0488	WL	12/05/2007	0001	39	-	39	0.27			#		
Dissolved Oxygen	mg/L	0493	WL	12/05/2007	0001	46	-	46	1.95			#		
Dissolved Oxygen	mg/L	0547	TS	12/05/2007	0001	0	-	0	6.06			#		
Dissolved Oxygen	mg/L	0557	WL	12/03/2007	0001	40	-	40	2.75			#		
Dissolved Oxygen	mg/L	0558	WL	12/03/2007	0001	36	-	36	1.4			#		
Dissolved Oxygen	mg/L	0559	WL	12/03/2007	0001	19	-	19	0.83			#		
Dissolved Oxygen	mg/L	0560	WL	12/03/2007	0001	31	-	31	2.3			#		
Dissolved Oxygen	mg/L	0583	WL	12/04/2007	0001	18	-	18	3.17			#		
Dissolved Oxygen	mg/L	0587	WL	12/04/2007	0001	18	-	18	2.03			#		
Dissolved Oxygen	mg/L	0589	WL	12/04/2007	0001	52	-	52	2.1			#		
Dissolved Oxygen	mg/L	0682	WL	12/04/2007	0001	28	-	28	1.54			#		
Dissolved Oxygen	mg/L	0687	WL	12/04/2007	0001	18	-	18	0.99			#		
Dissolved Oxygen	mg/L	0688	WL	12/05/2007	0001	31	-	31	1.6			#		
Dissolved Oxygen	mg/L	0688	WL	12/05/2007	0001	39	-	39	2.13			#		

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Dissolved Oxygen	mg/L	0689	WL	12/05/2007	0001	54	-	54	1.31			#		
Dissolved Oxygen	mg/L	0689	WL	12/05/2007	0001	46	-	46	1.57			#		
Dissolved Oxygen	mg/L	0780	WL	12/04/2007	0001	28	-	28	2.44			#		
Dissolved Oxygen	mg/L	0781	WL	12/04/2007	0001	46	-	46	2.72			#		
Dissolved Oxygen	mg/L	0787	WL	12/04/2007	0001	36	-	36	1.79			#		
Manganese	mg/L	0403	WL	12/04/2007	0001	17	-	17	4.2			#	0.0016	
Manganese	mg/L	0405	WL	12/05/2007	0001	18	-	18	1.6			#	0.00082	
Manganese	mg/L	0407	WL	12/04/2007	0001	17	-	17	0.83			#	0.00016	
Manganese	mg/L	0407	WL	12/04/2007	0002	17	-	17	0.84			#	0.00016	
Manganese	mg/L	0408	WL	12/04/2007	0001	26	-	26	4.5			#	0.0016	
Manganese	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	3.6			#	0.0016	
Manganese	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	3.1			#	0.0016	
Manganese	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	3.3			#	0.0016	
Manganese	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	4			#	0.0016	
Manganese	mg/L	0480	WL	12/03/2007	0001	18	-	18	4.6			#	0.0016	
Manganese	mg/L	0481	WL	12/03/2007	0001	28	-	28	4.7			#	0.0016	
Manganese	mg/L	0483	WL	12/03/2007	0001	18	-	18	4.3			#	0.0016	
Manganese	mg/L	0484	WL	12/03/2007	0001	28	-	28	5.5			#	0.0016	
Manganese	mg/L	0488	WL	12/05/2007	0001	39	-	39	6.3			#	0.0016	
Manganese	mg/L	0488	WL	12/05/2007	0002	39	-	39	6.2			#	0.0016	
Manganese	mg/L	0493	WL	12/05/2007	0001	46	-	46	6.6			#	0.0016	
Manganese	mg/L	0547	TS	12/05/2007	0001	0	-	0	3.6			#	0.0016	
Manganese	mg/L	0557	WL	12/03/2007	0001	40	-	40	4.8			#	0.0016	
Manganese	mg/L	0558	WL	12/03/2007	0001	36	-	36	10			#	0.0082	
Manganese	mg/L	0559	WL	12/03/2007	0001	19	-	19	4			#	0.0016	
Manganese	mg/L	0560	WL	12/03/2007	0001	31	-	31	11			#	0.0082	

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Manganese	mg/L	0583	WL	12/04/2007	0001	18	-	18	4.7			#	0.0016	
Manganese	mg/L	0587	WL	12/04/2007	0001	18	-	18	4.4			#	0.0016	
Manganese	mg/L	0589	WL	12/04/2007	0001	52	-	52	8.9			#	0.0082	
Manganese	mg/L	0682	WL	12/04/2007	0001	28	-	28	4.7			#	0.0016	
Manganese	mg/L	0687	WL	12/04/2007	0001	18	-	18	3.8			#	0.0016	
Manganese	mg/L	0688	WL	12/05/2007	0001	39	-	39	3.7			#	0.0016	
Manganese	mg/L	0689	WL	12/05/2007	0001	54	-	54	6.4			#	0.0041	
Manganese	mg/L	0780	WL	12/04/2007	0001	28	-	28	6.1			#	0.0041	
Manganese	mg/L	0781	WL	12/04/2007	0001	46	-	46	8.3			#	0.0082	
Manganese	mg/L	0787	WL	12/04/2007	0001	36	-	36	6.7			#	0.0082	
Oxidation Reduction Potential	mV	0403	WL	12/04/2007	0001	17	-	17	199			#		
Oxidation Reduction Potential	mV	0405	WL	12/05/2007	0001	18	-	18	127			#		
Oxidation Reduction Potential	mV	0407	WL	12/04/2007	0001	17	-	17	-42			#		
Oxidation Reduction Potential	mV	0408	WL	12/04/2007	0001	26	-	26	149			#		
Oxidation Reduction Potential	mV	0470	WL	12/03/2007	0001	10.3	-	19.7	12			#		
Oxidation Reduction Potential	mV	0472	WL	12/03/2007	0001	10.3	-	19.7	56			#		
Oxidation Reduction Potential	mV	0474	WL	12/03/2007	0001	10.3	-	19.7	75			#		
Oxidation Reduction Potential	mV	0476	WL	12/03/2007	0001	10.3	-	19.7	85			#		
Oxidation Reduction Potential	mV	0480	WL	12/03/2007	0001	18	-	18	159			#		
Oxidation Reduction Potential	mV	0481	WL	12/03/2007	0001	28	-	28	107			#		
Oxidation Reduction Potential	mV	0483	WL	12/03/2007	0001	18	-	18	158			#		
Oxidation Reduction Potential	mV	0484	WL	12/03/2007	0001	28	-	28	115			#		
Oxidation Reduction Potential	mV	0488	WL	12/05/2007	0001	39	-	39	165			#		

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Oxidation Reduction Potential	mV	0493	WL	12/05/2007	0001	46	-	46	157			#		
Oxidation Reduction Potential	mV	0547	TS	12/05/2007	0001	0	-	0	200			#		
Oxidation Reduction Potential	mV	0557	WL	12/03/2007	0001	40	-	40	107			#		
Oxidation Reduction Potential	mV	0558	WL	12/03/2007	0001	36	-	36	170			#		
Oxidation Reduction Potential	mV	0559	WL	12/03/2007	0001	19	-	19	129			#		
Oxidation Reduction Potential	mV	0560	WL	12/03/2007	0001	31	-	31	138			#		
Oxidation Reduction Potential	mV	0583	WL	12/04/2007	0001	18	-	18	141			#		
Oxidation Reduction Potential	mV	0587	WL	12/04/2007	0001	18	-	18	108			#		
Oxidation Reduction Potential	mV	0589	WL	12/04/2007	0001	52	-	52	123			#		
Oxidation Reduction Potential	mV	0682	WL	12/04/2007	0001	28	-	28	155			#		
Oxidation Reduction Potential	mV	0687	WL	12/04/2007	0001	18	-	18	156			#		
Oxidation Reduction Potential	mV	0688	WL	12/05/2007	0001	31	-	31	164			#		
Oxidation Reduction Potential	mV	0688	WL	12/05/2007	0001	39	-	39	171			#		
Oxidation Reduction Potential	mV	0689	WL	12/05/2007	0001	46	-	46	177			#		
Oxidation Reduction Potential	mV	0689	WL	12/05/2007	0001	54	-	54	190			#		
Oxidation Reduction Potential	mV	0780	WL	12/04/2007	0001	28	-	28	99			#		
Oxidation Reduction Potential	mV	0781	WL	12/04/2007	0001	46	-	46	121			#		
Oxidation Reduction Potential	mV	0787	WL	12/04/2007	0001	36	-	36	128			#		
pH	s.u.	0403	WL	12/04/2007	0001	17	-	17	6.82			#		
pH	s.u.	0405	WL	12/05/2007	0001	18	-	18	7.25			#		
pH	s.u.	0407	WL	12/04/2007	0001	17	-	17	7.38			#		
pH	s.u.	0408	WL	12/04/2007	0001	26	-	26	6.85			#		

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
pH	s.u.	0470	WL	12/03/2007	0001	10.3	-	19.7	6.78			#		
pH	s.u.	0472	WL	12/03/2007	0001	10.3	-	19.7	6.87			#		
pH	s.u.	0474	WL	12/03/2007	0001	10.3	-	19.7	6.86			#		
pH	s.u.	0476	WL	12/03/2007	0001	10.3	-	19.7	6.78			#		
pH	s.u.	0480	WL	12/03/2007	0001	18	-	18	6.82			#		
pH	s.u.	0481	WL	12/03/2007	0001	28	-	28	6.88			#		
pH	s.u.	0483	WL	12/03/2007	0001	18	-	18	6.78			#		
pH	s.u.	0484	WL	12/03/2007	0001	28	-	28	6.84			#		
pH	s.u.	0488	WL	12/05/2007	0001	39	-	39	6.93			#		
pH	s.u.	0493	WL	12/05/2007	0001	46	-	46	6.96			#		
pH	s.u.	0547	TS	12/05/2007	0001	0	-	0	6.98			#		
pH	s.u.	0557	WL	12/03/2007	0001	40	-	40	6.88			#		
pH	s.u.	0558	WL	12/03/2007	0001	36	-	36	6.8			#		
pH	s.u.	0559	WL	12/03/2007	0001	19	-	19	6.9			#		
pH	s.u.	0560	WL	12/03/2007	0001	31	-	31	6.67			#		
pH	s.u.	0583	WL	12/04/2007	0001	18	-	18	6.8			#		
pH	s.u.	0587	WL	12/04/2007	0001	18	-	18	6.74			#		
pH	s.u.	0589	WL	12/04/2007	0001	52	-	52	6.7			#		
pH	s.u.	0682	WL	12/04/2007	0001	28	-	28	6.85			#		
pH	s.u.	0687	WL	12/04/2007	0001	18	-	18	6.88			#		
pH	s.u.	0688	WL	12/05/2007	0001	31	-	31	6.87			#		
pH	s.u.	0688	WL	12/05/2007	0001	39	-	39	6.88			#		
pH	s.u.	0689	WL	12/05/2007	0001	54	-	54	6.85			#		
pH	s.u.	0689	WL	12/05/2007	0001	46	-	46	6.94			#		
pH	s.u.	0780	WL	12/04/2007	0001	28	-	28	6.9			#		
pH	s.u.	0781	WL	12/04/2007	0001	46	-	46	6.86			#		

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
pH	s.u.	0787	WL	12/04/2007	0001	36	-	36	6.92			#		
Selenium	mg/L	0403	WL	12/04/2007	0001	17	-	17	0.0028			#	5.6E-005	
Selenium	mg/L	0405	WL	12/05/2007	0001	18	-	18	0.014			#	2.8E-005	
Selenium	mg/L	0407	WL	12/04/2007	0001	17	-	17	0.0003			#	2.8E-005	
Selenium	mg/L	0407	WL	12/04/2007	0002	17	-	17	0.0003			#	2.8E-005	
Selenium	mg/L	0408	WL	12/04/2007	0001	26	-	26	0.005			#	5.6E-005	
Selenium	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	0.0014			#	5.6E-005	
Selenium	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	0.0017			#	5.6E-005	
Selenium	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	0.0022			#	5.6E-005	
Selenium	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	0.0035			#	5.6E-005	
Selenium	mg/L	0480	WL	12/03/2007	0001	18	-	18	0.0035			#	5.6E-005	
Selenium	mg/L	0481	WL	12/03/2007	0001	28	-	28	0.0043			#	5.6E-005	
Selenium	mg/L	0483	WL	12/03/2007	0001	18	-	18	0.0024			#	5.6E-005	
Selenium	mg/L	0484	WL	12/03/2007	0001	28	-	28	0.0035			#	5.6E-005	
Selenium	mg/L	0488	WL	12/05/2007	0001	39	-	39	0.009			#	5.6E-005	
Selenium	mg/L	0488	WL	12/05/2007	0002	39	-	39	0.0085			#	5.6E-005	
Selenium	mg/L	0493	WL	12/05/2007	0001	46	-	46	0.0097			#	5.6E-005	
Selenium	mg/L	0547	TS	12/05/2007	0001	0	-	0	0.0024			#	5.6E-005	
Selenium	mg/L	0557	WL	12/03/2007	0001	40	-	40	0.0044			#	5.6E-005	
Selenium	mg/L	0558	WL	12/03/2007	0001	36	-	36	0.0049			#	0.00028	
Selenium	mg/L	0559	WL	12/03/2007	0001	19	-	19	0.0019			#	5.6E-005	
Selenium	mg/L	0560	WL	12/03/2007	0001	31	-	31	0.0048			#	0.00028	
Selenium	mg/L	0583	WL	12/04/2007	0001	18	-	18	0.0072			#	5.6E-005	
Selenium	mg/L	0587	WL	12/04/2007	0001	18	-	18	0.0053			#	5.6E-005	
Selenium	mg/L	0589	WL	12/04/2007	0001	52	-	52	0.0048			#	0.00028	
Selenium	mg/L	0682	WL	12/04/2007	0001	28	-	28	0.022			#	5.6E-005	

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Selenium	mg/L	0687	WL	12/04/2007	0001	18	-	18	0.019			#	5.6E-005	
Selenium	mg/L	0688	WL	12/05/2007	0001	39	-	39	0.009			#	5.6E-005	
Selenium	mg/L	0689	WL	12/05/2007	0001	54	-	54	0.0065			#	0.00014	
Selenium	mg/L	0780	WL	12/04/2007	0001	28	-	28	0.0021			#	0.00014	
Selenium	mg/L	0781	WL	12/04/2007	0001	46	-	46	0.0049			#	0.00028	
Selenium	mg/L	0787	WL	12/04/2007	0001	36	-	36	0.0033			#	0.00028	
Specific Conductance	umhos /cm	0403	WL	12/04/2007	0001	17	-	17	14099			#		
Specific Conductance	umhos /cm	0405	WL	12/05/2007	0001	18	-	18	6293			#		
Specific Conductance	umhos /cm	0407	WL	12/04/2007	0001	17	-	17	1409			#		
Specific Conductance	umhos /cm	0408	WL	12/04/2007	0001	26	-	26	17700			#		
Specific Conductance	umhos /cm	0470	WL	12/03/2007	0001	10.3	-	19.7	16379			#		
Specific Conductance	umhos /cm	0472	WL	12/03/2007	0001	10.3	-	19.7	15269			#		
Specific Conductance	umhos /cm	0474	WL	12/03/2007	0001	10.3	-	19.7	14888			#		
Specific Conductance	umhos /cm	0476	WL	12/03/2007	0001	10.3	-	19.7	14334			#		
Specific Conductance	umhos /cm	0480	WL	12/03/2007	0001	18	-	18	21785			#		
Specific Conductance	umhos /cm	0481	WL	12/03/2007	0001	28	-	28	21484			#		
Specific Conductance	umhos /cm	0483	WL	12/03/2007	0001	18	-	18	18051			#		
Specific Conductance	umhos /cm	0484	WL	12/03/2007	0001	28	-	28	25696			#		
Specific Conductance	umhos /cm	0488	WL	12/05/2007	0001	39	-	39	18116			#		
Specific Conductance	umhos /cm	0493	WL	12/05/2007	0001	46	-	46	18706			#		
Specific Conductance	umhos /cm	0547	TS	12/05/2007	0001	0	-	0	14516			#		
Specific Conductance	umhos /cm	0557	WL	12/03/2007	0001	40	-	40	22987			#		

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Specific Conductance	umhos /cm	0558	WL	12/03/2007	0001	36	-	36	76572			#		
Specific Conductance	umhos /cm	0559	WL	12/03/2007	0001	19	-	19	12394			#		
Specific Conductance	umhos /cm	0560	WL	12/03/2007	0001	31	-	31	87832			#		
Specific Conductance	umhos /cm	0583	WL	12/04/2007	0001	18	-	18	15326			#		
Specific Conductance	umhos /cm	0587	WL	12/04/2007	0001	18	-	18	13407			#		
Specific Conductance	umhos /cm	0589	WL	12/04/2007	0001	52	-	52	97751			#		
Specific Conductance	umhos /cm	0682	WL	12/04/2007	0001	28	-	28	16163			#		
Specific Conductance	umhos /cm	0687	WL	12/04/2007	0001	18	-	18	14101			#		
Specific Conductance	umhos /cm	0688	WL	12/05/2007	0001	31	-	31	14496			#		
Specific Conductance	umhos /cm	0688	WL	12/05/2007	0001	39	-	39	16608			#		
Specific Conductance	umhos /cm	0689	WL	12/05/2007	0001	46	-	46	26783			#		
Specific Conductance	umhos /cm	0689	WL	12/05/2007	0001	54	-	54	50678			#		
Specific Conductance	umhos /cm	0780	WL	12/04/2007	0001	28	-	28	28610			#		
Specific Conductance	umhos /cm	0781	WL	12/04/2007	0001	46	-	46	108530			#		
Specific Conductance	umhos /cm	0787	WL	12/04/2007	0001	36	-	36	114656			#		
Sulfate	mg/L	0403	WL	12/04/2007	0001	17	-	17	6800		J	#	100	
Sulfate	mg/L	0405	WL	12/05/2007	0001	18	-	18	2700		J	#	50	
Sulfate	mg/L	0407	WL	12/04/2007	0001	17	-	17	370		J	#	10	
Sulfate	mg/L	0407	WL	12/04/2007	0002	17	-	17	350		J	#	10	
Sulfate	mg/L	0408	WL	12/04/2007	0001	26	-	26	8900		J	#	100	
Sulfate	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	6400		J	#	100	
Sulfate	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	5200		J	#	100	
Sulfate	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	5700		J	#	100	

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Sulfate	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	6400		J	#	100	
Sulfate	mg/L	0480	WL	12/03/2007	0001	18	-	18	8400		J	#	100	
Sulfate	mg/L	0481	WL	12/03/2007	0001	28	-	28	8200		J	#	100	
Sulfate	mg/L	0483	WL	12/03/2007	0001	18	-	18	6800		J	#	100	
Sulfate	mg/L	0484	WL	12/03/2007	0001	28	-	28	9700		J	#	100	
Sulfate	mg/L	0488	WL	12/05/2007	0001	39	-	39	9600		J	#	100	
Sulfate	mg/L	0488	WL	12/05/2007	0002	39	-	39	9600		J	#	100	
Sulfate	mg/L	0493	WL	12/05/2007	0001	46	-	46	10000		J	#	100	
Sulfate	mg/L	0547	TS	12/05/2007	0001	0	-	0	5800		J	#	100	
Sulfate	mg/L	0557	WL	12/03/2007	0001	40	-	40	8400		J	#	100	
Sulfate	mg/L	0558	WL	12/03/2007	0001	36	-	36	12000		J	#	100	
Sulfate	mg/L	0559	WL	12/03/2007	0001	19	-	19	5200		J	#	100	
Sulfate	mg/L	0560	WL	12/03/2007	0001	31	-	31	9900		J	#	50	
Sulfate	mg/L	0583	WL	12/04/2007	0001	18	-	18	7300		J	#	100	
Sulfate	mg/L	0587	WL	12/04/2007	0001	18	-	18	6100		J	#	100	
Sulfate	mg/L	0589	WL	12/04/2007	0001	52	-	52	8300		J	#	50	
Sulfate	mg/L	0682	WL	12/04/2007	0001	28	-	28	6900		J	#	100	
Sulfate	mg/L	0687	WL	12/04/2007	0001	18	-	18	6300		J	#	100	
Sulfate	mg/L	0688	WL	12/05/2007	0001	39	-	39	8300		J	#	100	
Sulfate	mg/L	0689	WL	12/05/2007	0001	54	-	54	12000		J	#	250	
Sulfate	mg/L	0780	WL	12/04/2007	0001	28	-	28	11000		J	#	250	
Sulfate	mg/L	0781	WL	12/04/2007	0001	46	-	46	7900		J	#	50	
Sulfate	mg/L	0787	WL	12/04/2007	0001	36	-	36	5000		J	#	50	

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Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Temperature	C	0403	WL	12/04/2007	0001	17	-	17	14.85			#		
Temperature	C	0405	WL	12/05/2007	0001	18	-	18	18.02			#		
Temperature	C	0407	WL	12/04/2007	0001	17	-	17	16.93			#		
Temperature	C	0408	WL	12/04/2007	0001	26	-	26	15.3			#		
Temperature	C	0470	WL	12/03/2007	0001	10.3	-	19.7	17.37			#		
Temperature	C	0472	WL	12/03/2007	0001	10.3	-	19.7	17.11			#		
Temperature	C	0474	WL	12/03/2007	0001	10.3	-	19.7	16.31			#		
Temperature	C	0476	WL	12/03/2007	0001	10.3	-	19.7	16.63			#		
Temperature	C	0480	WL	12/03/2007	0001	18	-	18	15.79			#		
Temperature	C	0481	WL	12/03/2007	0001	28	-	28	15.57			#		
Temperature	C	0483	WL	12/03/2007	0001	18	-	18	15.63			#		
Temperature	C	0484	WL	12/03/2007	0001	28	-	28	15.09			#		
Temperature	C	0488	WL	12/05/2007	0001	39	-	39	15.69			#		
Temperature	C	0493	WL	12/05/2007	0001	46	-	46	15.65			#		
Temperature	C	0547	TS	12/05/2007	0001	0	-	0	17.13			#		
Temperature	C	0557	WL	12/03/2007	0001	40	-	40	15.45			#		
Temperature	C	0558	WL	12/03/2007	0001	36	-	36	13.43			#		
Temperature	C	0559	WL	12/03/2007	0001	19	-	19	15.8			#		
Temperature	C	0560	WL	12/03/2007	0001	31	-	31	13.79			#		
Temperature	C	0583	WL	12/04/2007	0001	18	-	18	15.59			#		
Temperature	C	0587	WL	12/04/2007	0001	18	-	18	16.25			#		
Temperature	C	0589	WL	12/04/2007	0001	52	-	52	15.01			#		
Temperature	C	0682	WL	12/04/2007	0001	28	-	28	15.64			#		
Temperature	C	0687	WL	12/04/2007	0001	18	-	18	15.7			#		
Temperature	C	0688	WL	12/05/2007	0001	31	-	31	14.32			#		
Temperature	C	0688	WL	12/05/2007	0001	39	-	39	14.95			#		

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Temperature	C	0689	WL	12/05/2007	0001	46	-	46	13.91			#		
Temperature	C	0689	WL	12/05/2007	0001	54	-	54	14.6			#		
Temperature	C	0780	WL	12/04/2007	0001	28	-	28	14.43			#		
Temperature	C	0781	WL	12/04/2007	0001	46	-	46	14.33			#		
Temperature	C	0787	WL	12/04/2007	0001	36	-	36	13.72			#		
Total Dissolved Solids	mg/L	0403	WL	12/04/2007	0001	17	-	17	12000			#	400	
Total Dissolved Solids	mg/L	0405	WL	12/05/2007	0001	18	-	18	4500			#	80	
Total Dissolved Solids	mg/L	0407	WL	12/04/2007	0001	17	-	17	840			#	80	
Total Dissolved Solids	mg/L	0407	WL	12/04/2007	0002	17	-	17	850			#	80	
Total Dissolved Solids	mg/L	0408	WL	12/04/2007	0001	26	-	26	15000			#	400	
Total Dissolved Solids	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	12000			#	400	
Total Dissolved Solids	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	11000			#	400	
Total Dissolved Solids	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	11000			#	400	
Total Dissolved Solids	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	12000			#	200	
Total Dissolved Solids	mg/L	0480	WL	12/03/2007	0001	18	-	18	17000			#	400	
Total Dissolved Solids	mg/L	0481	WL	12/03/2007	0001	28	-	28	17000			#	400	
Total Dissolved Solids	mg/L	0483	WL	12/03/2007	0001	18	-	18	14000			#	400	
Total Dissolved Solids	mg/L	0484	WL	12/03/2007	0001	28	-	28	21000			#	400	
Total Dissolved Solids	mg/L	0488	WL	12/05/2007	0001	39	-	39	16000			#	400	
Total Dissolved Solids	mg/L	0488	WL	12/05/2007	0002	39	-	39	16000			#	400	
Total Dissolved Solids	mg/L	0493	WL	12/05/2007	0001	46	-	46	16000			#	400	
Total Dissolved Solids	mg/L	0547	TS	12/05/2007	0001	0	-	0	11000			#	200	
Total Dissolved Solids	mg/L	0557	WL	12/03/2007	0001	40	-	40	18000			#	400	
Total Dissolved Solids	mg/L	0558	WL	12/03/2007	0001	36	-	36	56000			#	2000	
Total Dissolved Solids	mg/L	0559	WL	12/03/2007	0001	19	-	19	9800			#	200	
Total Dissolved Solids	mg/L	0560	WL	12/03/2007	0001	31	-	31	65000			#	2000	

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Total Dissolved Solids	mg/L	0583	WL	12/04/2007	0001	18	-	18	13000			#	200	
Total Dissolved Solids	mg/L	0587	WL	12/04/2007	0001	18	-	18	12000			#	200	
Total Dissolved Solids	mg/L	0589	WL	12/04/2007	0001	52	-	52	76000			#	2000	
Total Dissolved Solids	mg/L	0682	WL	12/04/2007	0001	28	-	28	13000			#	400	
Total Dissolved Solids	mg/L	0687	WL	12/04/2007	0001	18	-	18	11000			#	200	
Total Dissolved Solids	mg/L	0688	WL	12/05/2007	0001	39	-	39	14000			#	400	
Total Dissolved Solids	mg/L	0689	WL	12/05/2007	0001	54	-	54	42000			#	1000	
Total Dissolved Solids	mg/L	0780	WL	12/04/2007	0001	28	-	28	24000			#	400	
Total Dissolved Solids	mg/L	0781	WL	12/04/2007	0001	46	-	46	86000			#	2000	
Total Dissolved Solids	mg/L	0787	WL	12/04/2007	0001	36	-	36	90000			#	2000	
Turbidity	NTU	0403	WL	12/04/2007	0001	17	-	17	5.86			#		
Turbidity	NTU	0405	WL	12/05/2007	0001	18	-	18	4.23			#		
Turbidity	NTU	0407	WL	12/04/2007	0001	17	-	17	2.78			#		
Turbidity	NTU	0408	WL	12/04/2007	0001	26	-	26	8.84			#		
Turbidity	NTU	0470	WL	12/03/2007	0001	10.3	-	19.7	2.53			#		
Turbidity	NTU	0472	WL	12/03/2007	0001	10.3	-	19.7	1.01			#		
Turbidity	NTU	0474	WL	12/03/2007	0001	10.3	-	19.7	0.88			#		
Turbidity	NTU	0476	WL	12/03/2007	0001	10.3	-	19.7	0.64			#		
Turbidity	NTU	0480	WL	12/03/2007	0001	18	-	18	0.36			#		
Turbidity	NTU	0481	WL	12/03/2007	0001	28	-	28	3.2			#		
Turbidity	NTU	0483	WL	12/03/2007	0001	18	-	18	2.04			#		
Turbidity	NTU	0484	WL	12/03/2007	0001	28	-	28	4.15			#		
Turbidity	NTU	0488	WL	12/05/2007	0001	39	-	39	4.4			#		
Turbidity	NTU	0493	WL	12/05/2007	0001	46	-	46	2.1			#		
Turbidity	NTU	0547	TS	12/05/2007	0001	0	-	0	9.51			#		
Turbidity	NTU	0557	WL	12/03/2007	0001	40	-	40	1.86			#		

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Turbidity	NTU	0558	WL	12/03/2007	0001	36	-	36	2.58			#		
Turbidity	NTU	0559	WL	12/03/2007	0001	19	-	19	3.72			#		
Turbidity	NTU	0560	WL	12/03/2007	0001	31	-	31	3.35			#		
Turbidity	NTU	0583	WL	12/04/2007	0001	18	-	18	7.69			#		
Turbidity	NTU	0587	WL	12/04/2007	0001	18	-	18	9.98			#		
Turbidity	NTU	0589	WL	12/04/2007	0001	52	-	52	5.06			#		
Turbidity	NTU	0682	WL	12/04/2007	0001	28	-	28	2.88			#		
Turbidity	NTU	0687	WL	12/04/2007	0001	18	-	18	5.81			#		
Turbidity	NTU	0688	WL	12/05/2007	0001	31	-	31	2.39			#		
Turbidity	NTU	0688	WL	12/05/2007	0001	39	-	39	3.42			#		
Turbidity	NTU	0689	WL	12/05/2007	0001	54	-	54	4.08			#		
Turbidity	NTU	0689	WL	12/05/2007	0001	46	-	46	4.17			#		
Turbidity	NTU	0780	WL	12/04/2007	0001	28	-	28	2.7			#		
Turbidity	NTU	0781	WL	12/04/2007	0001	46	-	46	1.06			#		
Turbidity	NTU	0787	WL	12/04/2007	0001	36	-	36	1.41			#		
Uranium	mg/L	0403	WL	12/04/2007	0001	17	-	17	2.6		J	#	0.00058	
Uranium	mg/L	0405	WL	12/05/2007	0001	18	-	18	1.6		J	#	0.00058	
Uranium	mg/L	0407	WL	12/04/2007	0001	17	-	17	0.062		J	#	5.8E-005	
Uranium	mg/L	0407	WL	12/04/2007	0002	17	-	17	0.058		J	#	1.2E-005	
Uranium	mg/L	0408	WL	12/04/2007	0001	26	-	26	2.6		J	#	0.00058	
Uranium	mg/L	0470	WL	12/03/2007	0001	10.3	-	19.7	2.1		J	#	0.00058	
Uranium	mg/L	0472	WL	12/03/2007	0001	10.3	-	19.7	1.7		J	#	0.00058	
Uranium	mg/L	0474	WL	12/03/2007	0001	10.3	-	19.7	1.9		J	#	0.00058	
Uranium	mg/L	0476	WL	12/03/2007	0001	10.3	-	19.7	2.4		J	#	0.00058	
Uranium	mg/L	0480	WL	12/03/2007	0001	18	-	18	2.4		J	#	0.00058	
Uranium	mg/L	0481	WL	12/03/2007	0001	28	-	28	2.3		J	#	0.00058	

General Water Quality Data by Parameter (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertain
Uranium	mg/L	0483	WL	12/03/2007	0001	18	-	18	2.3		J	#	0.00058	
Uranium	mg/L	0484	WL	12/03/2007	0001	28	-	28	2.7		J	#	0.0012	
Uranium	mg/L	0488	WL	12/05/2007	0001	39	-	39	1.9		J	#	0.0012	
Uranium	mg/L	0488	WL	12/05/2007	0002	39	-	39	1.9		J	#	0.00058	
Uranium	mg/L	0493	WL	12/05/2007	0001	46	-	46	2.1		J	#	0.0012	
Uranium	mg/L	0547	TS	12/05/2007	0001	0	-	0	2		J	#	0.00058	
Uranium	mg/L	0557	WL	12/03/2007	0001	40	-	40	2.4		J	#	0.00058	
Uranium	mg/L	0558	WL	12/03/2007	0001	36	-	36	2		J	#	0.00058	
Uranium	mg/L	0559	WL	12/03/2007	0001	19	-	19	2.1		J	#	0.00058	
Uranium	mg/L	0560	WL	12/03/2007	0001	31	-	31	1.8		J	#	0.00058	
Uranium	mg/L	0583	WL	12/04/2007	0001	18	-	18	2.6		J	#	0.00058	
Uranium	mg/L	0587	WL	12/04/2007	0001	18	-	18	2.9		J	#	0.0012	
Uranium	mg/L	0589	WL	12/04/2007	0001	52	-	52	1.3		J	#	0.00058	
Uranium	mg/L	0682	WL	12/04/2007	0001	28	-	28	2.1		J	#	0.00058	
Uranium	mg/L	0687	WL	12/04/2007	0001	18	-	18	2		J	#	0.00058	
Uranium	mg/L	0688	WL	12/05/2007	0001	39	-	39	2		J	#	0.00058	
Uranium	mg/L	0689	WL	12/05/2007	0001	54	-	54	2.6		J	#	0.00058	
Uranium	mg/L	0780	WL	12/04/2007	0001	28	-	28	3.2		J	#	0.0012	
Uranium	mg/L	0781	WL	12/04/2007	0001	46	-	46	0.55		J	#	0.00058	
Uranium	mg/L	0787	WL	12/04/2007	0001	36	-	36	0.15		J	#	0.00012	

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q	Qualitative result due to sampling technique.	R	Unusable result.
U	Parameter analyzed for but was not detected.	X	Location is undefined.		

QA QUALIFIER:

#	Validated according to quality assurance guidelines.

3.4 Water Level Data

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0403	O	3968.95	12/04/2007		16.37	3952.58	
0405	O	3968.47	12/05/2007		14.21	3954.26	
0407	O	3969.09	12/04/2007		16.94	3952.15	
0408	O	3969.17	12/04/2007		15.54	3953.63	
0470		3964.12	12/03/2007		12.78	3951.34	
0472		3964.4	12/03/2007		13.07	3951.33	
0474		3964.99	12/03/2007		13.48	3951.51	
0476		3965.24	12/03/2007		14.71	3950.53	
0480		3968.65	12/03/2007		16.57	3952.08	
0481		3968.83	12/03/2007		15.99	3952.84	
0483		3968.9	12/03/2007		16.85	3952.05	
0484		3969.19	12/03/2007		16.52	3952.67	
0488		3968.48	12/05/2007		14.11	3954.37	
0493		3967.89	12/05/2007		13.72	3954.17	
0557		3968.85	12/03/2007		15.61	3953.24	
0558		3968.79	12/03/2007		16.36	3952.43	
0559		3969.92	12/03/2007		17.48	3952.44	
0560		3968.77	12/03/2007		16.33	3952.44	
0583		3969.64	12/04/2007		16.38	3953.26	
0587		3968.89	12/04/2007		15.62	3953.27	
0589		3968.87	12/04/2007		15.67	3953.2	
0682		3970.18	12/04/2007		16.21	3953.97	
0687		3969.09	12/04/2007		15.01	3954.08	
0688		3968.66	12/05/2007		14.95	3953.71	
0689		3968.66	12/05/2007		14.88	3953.78	
0780		3968.45	12/04/2007		16.12	3952.33	

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
REPORT DATE: 6/25/2008

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0781		3968.56	12/04/2007		16.22	3952.34	
0787		3968.43	12/04/2007		16.58	3951.85	

FLOW CODES: B BACKGROUND C CROSS GRADIENT D DOWN GRADIENT O ON SITE
U UPGRADIENT

WATER LEVEL FLAGS: D Dry

3.5 Blanks Report

There were no surface water samples collected, so no equipment blanks were collected either.

Attachment 1
Trip Report

S&K Moab TAC Team

DATE: December 13, 2007

TO: K. Pill

FROM: E. Glowiak

SUBJECT: Trip Report

Site: Moab – Interim Action Well Field Monthly Sampling – December 2007

Date of Sampling Event: December 3-5, 2007

Team Members: Steve Back, Elizabeth Glowiak

RIN Number Assigned: All samples were assigned to RIN 0712005.

Sample Shipment: All samples were shipped in a cooler overnight UPS to Paragon Analytics, Inc. from Moab, Utah, on December 6 (Tracking No. 1Z5W1Y510192849874).

December 2007 Configuration 1 Sampling

Number of Locations Sampled: Four extraction wells (0470, 0472, 0474, 0476), 10 observation wells (0403, 0407, 0480, 0481, 0483, 0484, 0557, 0558, 0559, 0560), and one evaporation pond location (0547), were sampled during the December 2007 sampling event. Including one duplicate, a total of 16 samples were collected.

Locations Not Sampled: The following locations were not sampled during the December 2007 sampling event.

Location No.	Type	Reason
0478	Extraction Well	The dedicated submersible pump is not functioning

Field Variance: None.

Quality Control Sample Cross Reference: Following are the false identifications assigned to the quality control samples:

False ID	True ID	Sample Type	Associated Matrix	Ticket Number
2910	0407	Duplicate from 17 ft bgs	Ground Water	NFC 240

Location Specific Information – Configuration 1 Extraction Wells: Extraction wells were sampled using dedicated submersible pumps.

Well No.	Date	Time	Water Level (ft btoc*)	Pump Intake (ft bgs)
0470	12/03/2007	09:54	12.78	18
0472	12/03/2007	10:05	13.07	18
0474	12/03/2007	10:16	13.48	18
0476	12/03/2007	10:32	14.71	18

*below top of casing

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated downhole and pump-head tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0403	12/04/2007	08:54	16.37	17
0407	12/04/2007	09:12	16.94	17
0480	12/03/2007	13:54	16.57	18
0481	12/03/2007	11:20	15.99	28
0483	12/03/2007	14:15	16.85	18
0484	12/03/2007	14:31	16.52	28
0557	12/03/2007	11:00	15.61	40
0558	12/03/2007	14:49	16.36	36
0559	12/03/2007	15:10	17.48	19
0560	12/03//2007	15:24	16.33	31

December 2007 Configuration 2 Sampling

Number of Locations Sampled: Four Configuration 2 observation wells (0408, 0583, 0587, 0589) were sampled during the December 2007 sampling event. A total of four samples were collected.

Locations Not Sampled: None.

Field Variance: None.

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0408	12/04/2007	15:09	15.54	26
0583	12/04/2007	14:39	16.38	18
0587	12/04/2007	14:15	15.62	18
0589	12/04/2007	13:58	15.67	52

December 2007 Configuration 3 Sampling

Number of Locations Sampled: Four observation wells (0682, 0687, 0688-39 ft, 0689-54 ft) were sampled during the December 2007 sampling event. A total of four samples were collected.

Field Variance: None.

Locations in Which Field Parameters Were Measured Only: Parameters were measured at locations 0688 at 31 ft and 0689 at 46 ft.

Well No.	Date	Time	Depth (ft bgs)	Depth To Water (ft btoc)	Field Parameters					
					Temp (^{o}C)	Spec Cond (µS/cm)	D.O. (mg/L)	pH	ORP	Turb. (NTUs)
0688	12/05/2007	09:50	31	14.95	14.95	14,496	1.60	6.87	164	2.39
0689	12/05/2007	10:17	46	14.89	13.91	26,783	1.57	6.94	177	4.17

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0682	12/04/2007	15:45	16.21	28
0687	12/04/2007	16:00	15.01	18
0688-39	12/05/2007	09:34	14.95	39
0689-54	12/05/2007	10:03	14.88	54

December 2007 Configuration 4 Sampling

Number of Locations Sampled: Three observation wells (0780, 0781, 0787 were sampled during the December 2007 sampling event.

Field Variance: None.

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0780	12/04/2007	10:37	16.12	28
0781	12/04/2007	10:17	16.22	46
0787	12/04/2007	10:55	16.58	36

December 2007 Baseline Sampling

Number of Locations Sampled: Three observation wells (0405, 0488, 0493) were sampled during the December 2007 sampling event. Including one duplicate, a total of four samples were collected.

Field Variance: None.

Quality Control Sample Cross Reference: Following are the false identifications assigned to the quality control samples:

False ID	True ID	Sample Type	Associated Matrix	Ticket Number
2910	0488	Duplicate from 39 ft bgs	Ground Water	NFC 282

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc*)	Sample Depth (ft bgs)
0405	12/05/2007	10:57	14.21	18
0488	12/05/2007	11:14	14.11	39
0493	12/05/2007	10:39	13.72	46

*Below top of casing.

Well Inspection Summary: A well inspection was not conducted.

Site Issues: According to the USGS Cisco Gaging Station (Station No. 09180500), the mean daily Colorado River flows during this sampling event are provided below:

Date	Daily Mean Flow (cfs)
12/03/2007	4,690
12/04/2007	4,070
12/05/2007	3,780

Equipment Issues: None.

Corrective Action Required/Taken: None.

cc: J.D. Ritchey, P2S
K. G. Pill, P2S
E. M. Glowiak, P2S
M. Mullis, S&K

Attachment 2
Acronyms

AWQC	Ambient Water Quality Criteria
bgs	Below Ground Surface
BLS	Below Land Surface
btoc	Below Top of Casing
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
cfs	Cubic Feet per Second
COC	Chain of Custody
CRI	Reporting Limit Verification
DO	Dissolved Oxygen
EDD	Electronic Data Deliverable
EPA	Environment Protection Agency
ft	Feet
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICP/MS	Inductively Coupled Plasma/Mass Spectrometry
ICS	Interference Check Sample
ICV	Initial Calibration Verification
LCS	Laboratory Control Samples
MDL	Minimum Detection Limit
MB	Method Blanks
mg/L	Milligram per Liter
mL/m	Milliliter per Minute
MS	Matrix Spike
MSD	Matrix Spike Duplicate
µmhos/cm	Micro Mhos per Centimeter
µS/cm	Micro Siemens per Centimeter
mV	Millivolt
NTU	Nephelometric Turbidity Unit
ORP	Oxidation Reduction Potential
PQL	Practical Quantitation Limit
RDL	Required Detection Limit
RIN	Report Identification Number
RL	Reporting Limit
RPD	Relative Percent Difference
SDG	Sample Data Group
SU	Standard Unit
TDS	Total Dissolved Solids
UMTRA	Uranium Mill Tailings Remedial Action
USGS	U.S. Geological Survey
VDP	Validation Data Package